New Genera and New Species of Notodontidae, with Synonymic Notes (Lepidoptera)

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Nephodonta gen. n.

Type-species: *Nephodonta tsushimensis* sp. n.

Antenna bipectinate in male, length of pectinations being gradually decreased towards apex, unidentate in apical one-fifth; simple in female. Eyes naked, proboscis present, palpus short, fringed with hair below, third segment naked. Vestiture of head and thorax shaggy, without thoracic crest. Hindtibia with two pairs of spur, but the inner spur of the anterior pair shortened or degenerate. Abdomen moderately scaled, without dorsal crest. Forewing relatively narrow, apex slightly more produced in female than in male; hindmargin unlobed, without scale-tuft; in venation no accessory cell, R_{2-5} stalked, R_2 beyond R_5, M_1 from upper angle of cell, M_2 from middle of discoidal vein. Hindwing with R and M_1 stalked towards 3/5, M_2 from middle of discoidal vein, Cu_1 from before lower angle of cell.

Male genitalia. Uncus wide, with extremity broadly rimmed, concave mesally and bent ventrad. Socii a pair of thick rods. Tegumen broad, short. Valva robust, with no inner armature, strongly bent inwards at middle, somewhat dilated at apical one-third. Aedeagus slender, with a slender spine-like process at extremity.

Eighth sternite wider than height, caudal margin peaked bilaterally, deep concave mesally.

Nephodonta tsushimensis sp. n.

(Figs. 1, 2)

♂. Length of forewing 19 mm. Palpus pale ochreous yellow, mixed with brown hair above and below, except third segment. Frontal tuft dark grey brown, head and thorax clothed with dark brown hair, mixed with grey. Forewing whitish grey in ground-colour, irrorated with fuscous, basal space to before antemedian line tinged with dark brown below costa, red brown below cell to hind margin; antemedian line dark, angled outwards in cell and at submedian fold; reniform obscure, represented by loose pale spot at upper angle of cell in obscure median shade from costa to vein Cu_2; postmedian line defined outsides with whitish stria below costa, incurved to vein M_3, then oblique inwards to Cu_2, obscure below it; veins infuscated beyond cell, fuscous shade beyond postmedian line defined posteriorly irregularly; subterminal line pale, somewhat obscure, defined anteriorly by red brown below M_1, a large red brown spot near tornus. Cilia dark grey brown. Hindwing greyish white, veins infuscated. Cilia greyish white.

蝶と蛾 *Tyô to Ga*, **30**(3, 4): 179–187, 1980

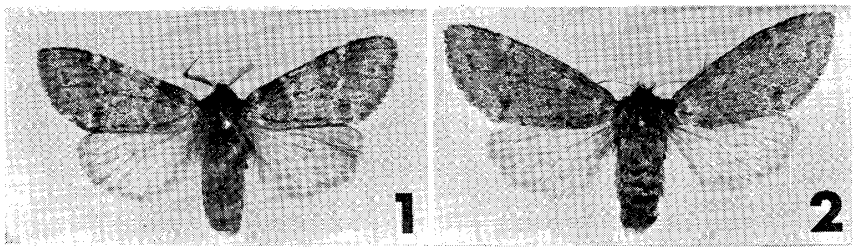
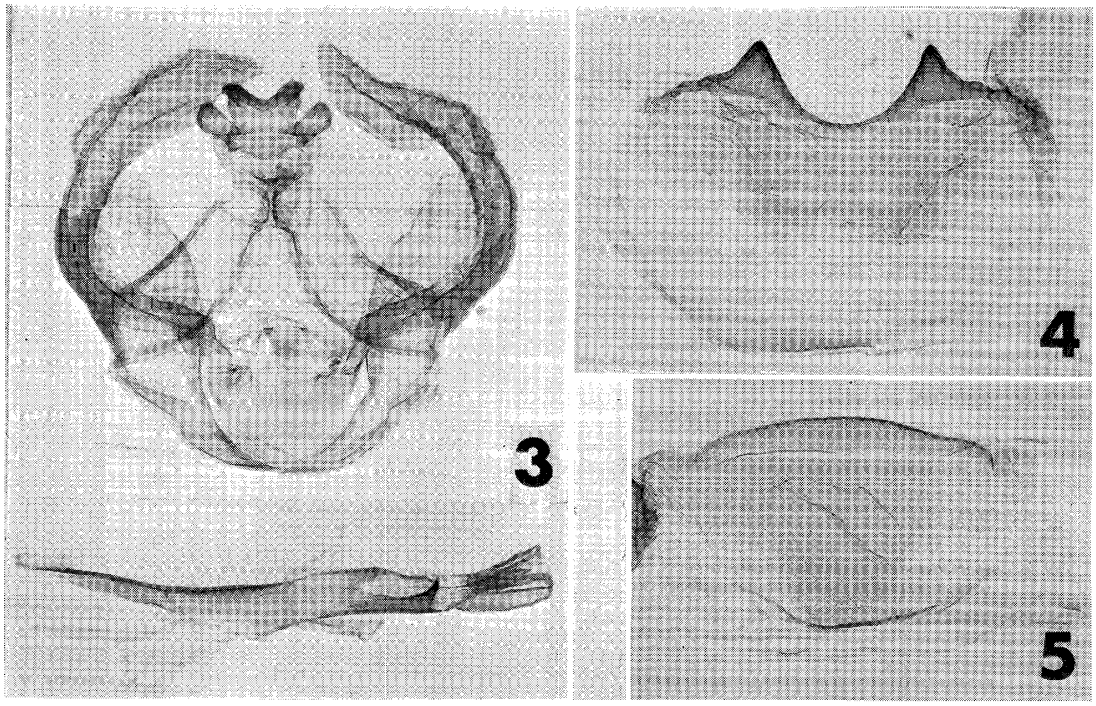


Fig. 1. *Nephodonta tsushimensis* sp. n. ♂, holotype. Fig. 2. Ditto ♀, paratype.



Figs. 3–5. *Nephodonta tsushimensis* sp. n. 3. Male genitalia. —— 4. Eighth sternite. —— 5. Eighth tergite.

Male genitalia (Figs. 3–5). As described for the genus.

♀. Length of forewing 20 mm. Slightly larger than male. Forewing more uniformly irrorated with fuscous, lines obscure; a pale loose spot in cell below antemedian pale stria below costa; postmedian line represented by a dark stria below costa, edged posteriorly with pale spot below costa, and fuscous points at veins M_3, Cu_1, Cu_2; red brown fringe before subterminal line and red brown tornal spot much reduced than in male.

Holotype ♂. Tsushima Is.——Jirikubi-yama, 10. iii. 1974 (T. WATANABE). Genitalia slide SS-2775. In coll. National Science Museum, Tokyo.

Paratype ♀. Tsushima Is.——Ôura, 4. iii. 1974 (T. WATANABE). In coll. National Science Museum, Tokyo.

Distribution. Tsushima Island, Japan.

The one pair used for description is all I know of the present new species. It was collected by T. WATANABE during his field survey to moth-fauna of Tsushima Island, made extensively in every month through a year. Moth seems to appear early in spring.

Notodonta dembowski OBERTHÜR
(Fig. 7)

Notodonta dembowskii OBERTHÜR, 1879, *Diagnoses Lépid. Askold*: 12.— 1880, *Étud. Ent.*, **5**: 62, pl. 2: 4.
Notodonta rothschildi WILEMAN & SOUTH, 1916, *Entomologist* **49**: 133. **Syn. n.**

The photograph of the holotype of *Notodonta rothschildi* WILEMAN & SOUTH, 1916, described from Japan, is here presented (Fig. 7). It was kindly given me by Dr. H. INOUE, who took it during his stay at British Museum (Natural History). Examination of the photograph proves *rothschildi* conspecific with *Notodonta dembowskii* OBERTHÜR, 1879, which is common throughout the Primorye region to Japan. For another species wrongly considered by most senior authors as *rothschildi* in our literature, the following name will be valid.

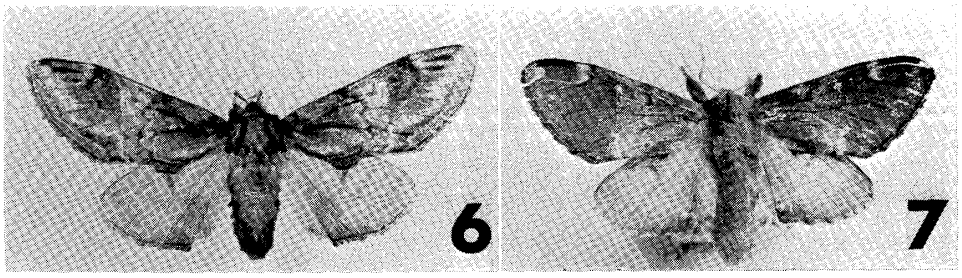


Fig. 6. *Notodonta stigmatica* MATSUMURA ♂. Fig. 7. *Notodonta dembowskii* OBERTHÜR. Holotype of *Notodonta rothschildi* WILEMAN & SOUTH. Japan: Hakodate. BMNH. Photo H. INOUE.

Notodonta stigmatica MATSUMURA
(Fig. 6)

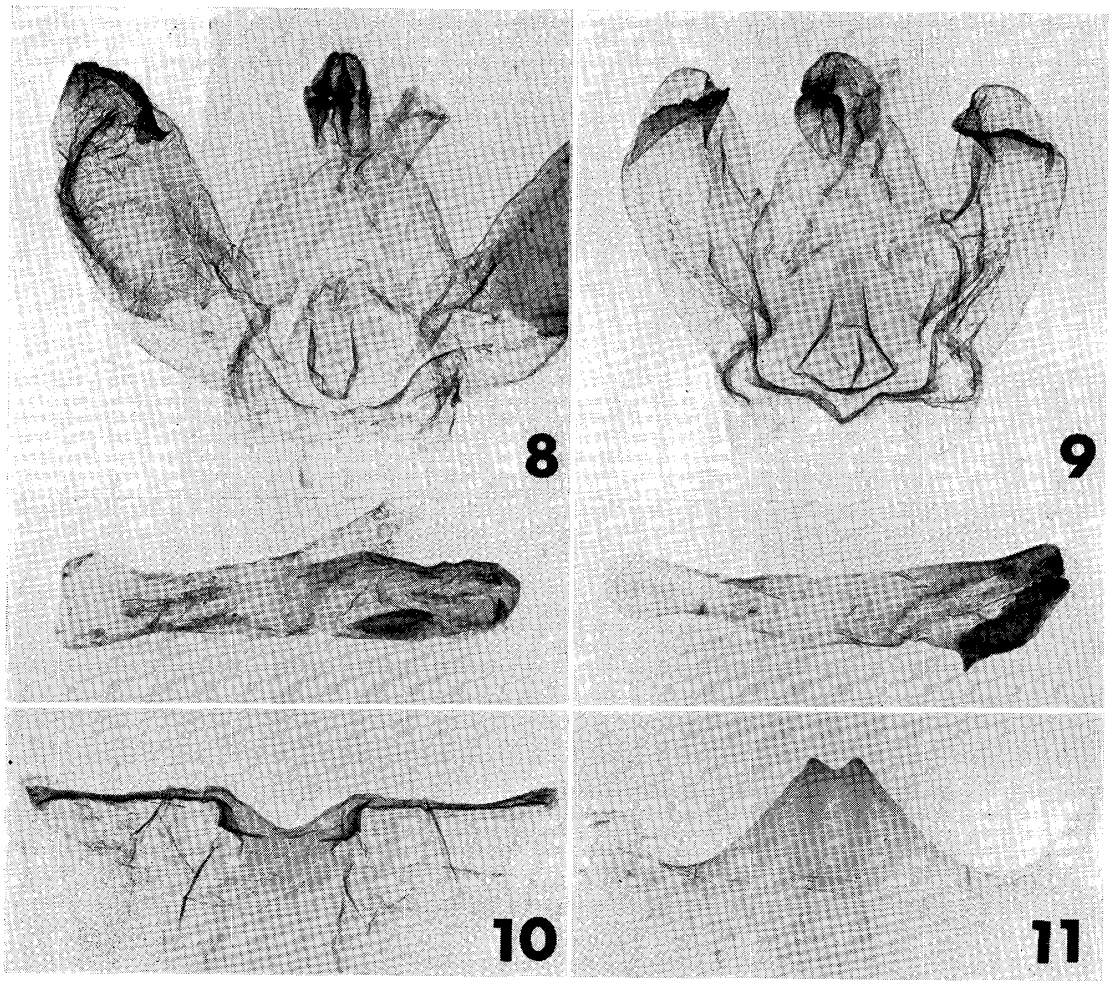
Hupodonta pulcherrima ab. *stigmatica* GRÜNBERG, 1912, in SEITZ, *Macrolepid. World*, **2**: 299, pl. 45 g [infrasubspecific].
Notodonta stigmatica MATSUMURA, 1920 May 15, *Zool. Mag. Tokyo*, **32**: 146 [elevated to a rank of species-group].
Notodonta stigmatica MARUMO, 1920 November 20, *J. Coll. Agr. Tokyo imp. Univ.*, **6**: 321, pl. 22: 15 [elevated to a rank of species-group].

The present species was first published by GRÜNBERG (1912) based on Japanese specimens, but he curiously referred it to *Hopodonta pulcherrima,* as ab. *stigmatica.* A good figure was given for it on colour plate between figures of [*Hupodonta pulcherrima*] *corticalis* and [*Notodonta*] *dembowskii.* It would be presumably unintentional that in the text he placed ab. *stigmatica* under the term of *Hupodonta pulcherrima.*

The subsequent authors who were aware of GRÜNBERG's incorrect treatment were MATSUMURA (1920) and MARUMO (1920). They, independently recognizing *stigmatica* as a *Notodonta* specifically distinct from *dembowskii,* elevated the name to a rank of species-group. MATSUMURA being six months earlier than MARUMO, stated that:

"The species of *Notodonta* inhabiting Japan are only the following three.

1. *Notodonta tritophus* ESP.
2. *Notodonta rothschildi* WILEM. et SOUTH



Figs. 8–11. Male genitalia and eighth sternite of *Notodonta*. —— 8, 10. *N. stigmatica* MATSUMURA. —— 9, 11. *N. dembowskii* OBERTHÜR.

3. *Notodonta stigmatica* GRÜNB.

"Note. GRÜNBERG referred the last species to a variety of *Hupodonta pulcherrima* BUTL., but it is quite incorrect [translation from Japanese by SUGI]."

This statement made the name *stigmatica* nomenclaturally available, so the name should be credited to MATSUMURA with the date of May 1920.

Notodonta stigmatica is superficially somewhat similar to the well-known *dembowskii,* but readily separable in the deep chocolate brown tone and the lack of yellowish suffusion on the median space on forewing, and in the reniform well defined with whitish. The differences in the male genitalia and eighth sternite are distinctive, the latter being useful for ready identification (Figs. 8–11).

Allodonta plebeja (OBERTHÜR)
(Fig. 12)

Notodonta plebeja OBERTHÜR, 1880, *Étud. Ent.*, **5**: 65, pl. 8: 7.

Coreodonta coreana MATSUMURA, 1924, *Trans. Sapporo nat. Hist. Soc.*, **9**: 32.—SUGI, 1979, *Tyô to Ga*, **30**: 8, fig. 74 (lectotype), 143 (male genitalia). **Syn. n.**

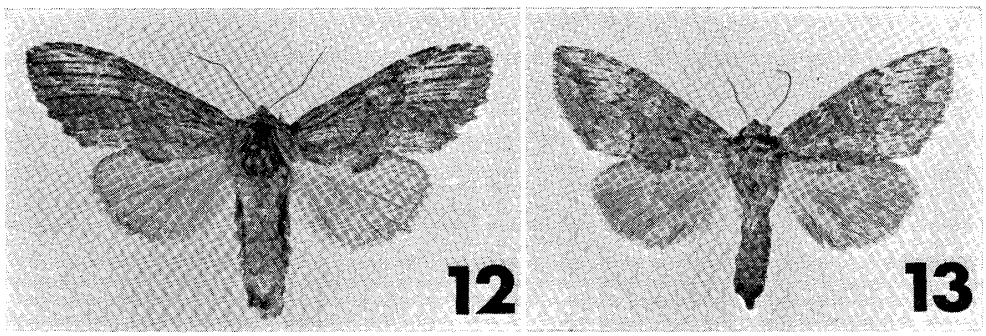
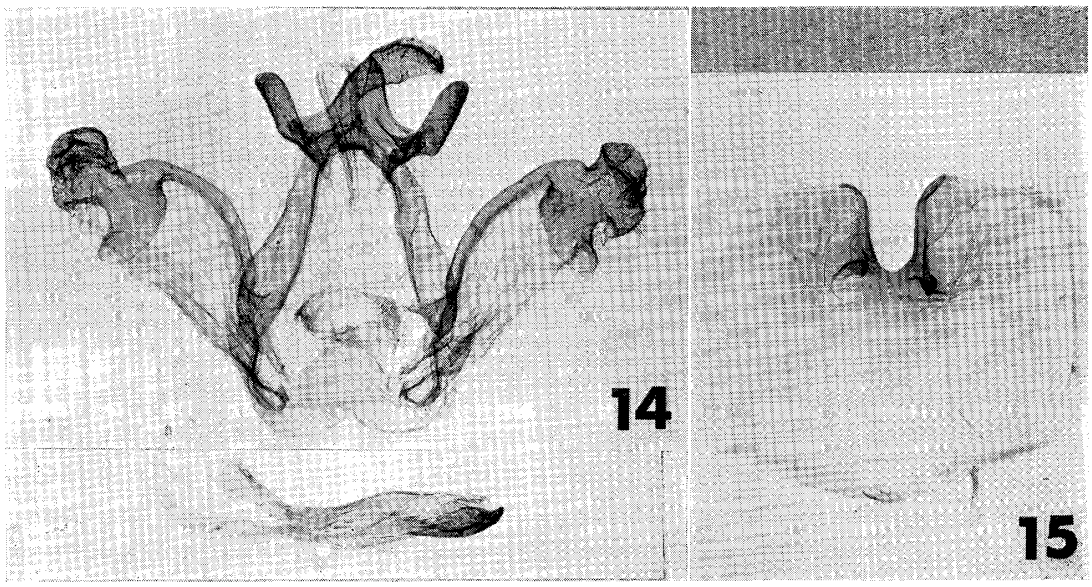


Fig. 12. *Allodonta plebeja* (OBERTHÜR) ♂. The Primorye region. Fig. 13. *Takadonta takamukui* MATSUMURA ♂.



Figs. 14–15. Male genitalia and eighth sternite of *Eriodonta amagisana* (MARUMO).

An examination of the male genitalia of *Allodonta plebeja* (OBERTHÜR) which I received through the kindness of Dr. Yu. A. TSHISTJAKOV, Wladiwostok, revealed that it was exactly conspecific with *Coreodonta coreana* MATSUMURA. *C. coreana* MATSUMURA, 1924, is a junior subjective synonym of *Allodonta plebeja* (OBERTHÜR, 1880).

In *plebeja,* the male antenna is nearly simple, with fine denticulation below, bearing fascicule. Forewing is somewhat elongate like *Notodonta,* with termen oblique and slightly crenulate towards tornus. An erected large scale tuft is on thorax. Venation of forewing has no accessory cell, vein M_1 arising from stem of R_{2-5}, which are connate, R_2 beyond R_5. The male genitalia of *plebeja* are as illustrated by SUGI (1979) from a specimen in the type-series of *coreana.* Uncus is large, bifurcate with branches stout, and socii are long digitate. Valva membranous with broadly sclerotized costa toward heavy apical lobation bearing a dilated process before it on costa.

This species is to considerable degree related to *Takadonta takamukui* MATSUMURA (Fig. 13), but in the latter the male antenna is a little more denticulate with longer fascicule, the forewing is shorter, with termen even, and the male socii are extremely reduced. As at present I do not consider the both congeneric, I would like to retain *Allodonta* STAUDINGER and *Takadonta* MATSUMURA as two distinct monotypic genera.

The majority of species referred to as *Allodonta* in KIRIAKOFF's catalogue (1967, 1968) forms a unit as represented by *A. sikkima* (MOORE), on which KIRIAKOFF based his description of genitalia and definition of the genus shown in the key. *A. sikkima* and its allies show some affinity with the genera discussed above, but are separated chiefly in having the bipectinate male antenna and in some detailed characters of genitalia. For this group *Hexafrenum* MATSUMURA is the only available name, as the type-species *H. maculifer* MATSUMURA is a close ally to *sikkima* (MOORE) as stated by NAKAMURA (1978).

A synopsis of the genera and species involved is as follows.

Takadonta MATSUMURA, 1920
  takamukui MATSUMURA, 1920
Allodonta STAUDINGER, 1887
  Coreodonta MATSUMURA, 1924 **Syn. n.**
    plebeja (OBERTHÜR, 1880)
      coreana (MATSUMURA, 1924) **Syn. n.**
Hexafrenum MATSUMURA, 1925
  maculifer MATSUMURA, 1925
  sikkima (MOORE, 1879) **Comb. n.**
  leucodera (STAUDINGER, 1892) **Comb. n.**
  and other related species.

Eriodonta gen. n.

Type-species: *Shaka amagisana* MARUMO, 1933.

Antenna bipectinate in male, length of pectinations being gradually decreased to near apex, simple in female. Eyes naked. Proboscis degenerate, palpus short fringed with hair below, third segment naked. Vestiture deep in head, thorax and pectus, with long simple hair only, without thoracic crest. Abdomen clothed with simple hair above and below. Legs hairy, two pairs of spur on hindtibia. Forewing moderately long, somewhat produced apically, termen moderately curved, hindmargin slightly lobed at basal half, scaling somewhat sparser than usual, resulting in some semitransparent appearance. In forewing venation with no accessory cell, R_{2-5} stalked, R_2 beyond R_5, M_1 from upper angle of cell, M_2 from middle of discoidal vein. In hindwing R and M_1 stalked toward about 3/7, M_2 from middle of discoidal vein, Cu_1 from shortly before lower angle of cell.

Male genitalia. Uncus short, somewhat spatulate, ridged ventrally, with wider base; socii a pair of digitate process. Tegumen broad, moderately long; valva membranous with costa and apical structure well sclerotized, the latter with large inner lobe. Aedeagus with apex peaked bearing fine spinules before it.

The present new genus contains the type-species only. External and anatomical structures suggest it to be related to *Drymonia* HÜBNER more than *Suzukia* MATSUMURA [*Suzukiana* SUGI] where *amagisana* has been placed by senior authors. It shows some affinity with *Shaka* MATSUMURA in male genitalia, but in the latter forewing has a narrow accessory cell and male antenna is serrate and fasciculate.

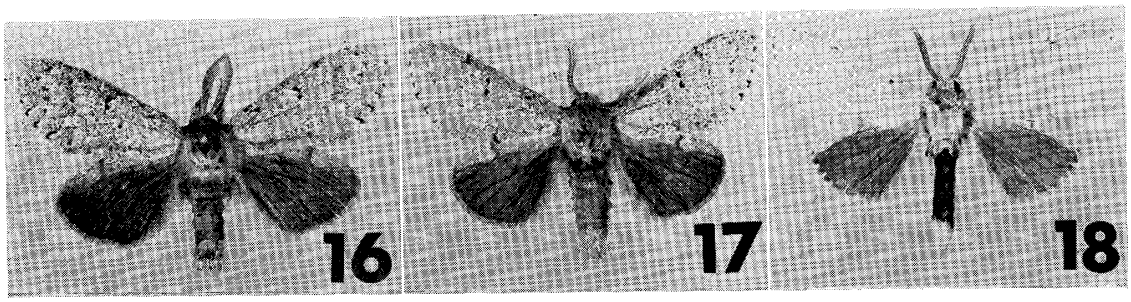


Fig. 16. *Cnethodonta japonica* sp. n. ♂, holotype. Fig. 17. *Cnethodonta grisescens grisescens* (STAUDINGER) ♂. Japan. Fig. 18. *Cnethodonta grisescens baibarana* (MATSUMURA) ♂, Taiwan.

Cnethodonta japonica sp. n.
(Fig. 16)

Confusingly alike to *C. grisescens* (STAUDINGER) in external appearance, but separable as follows.

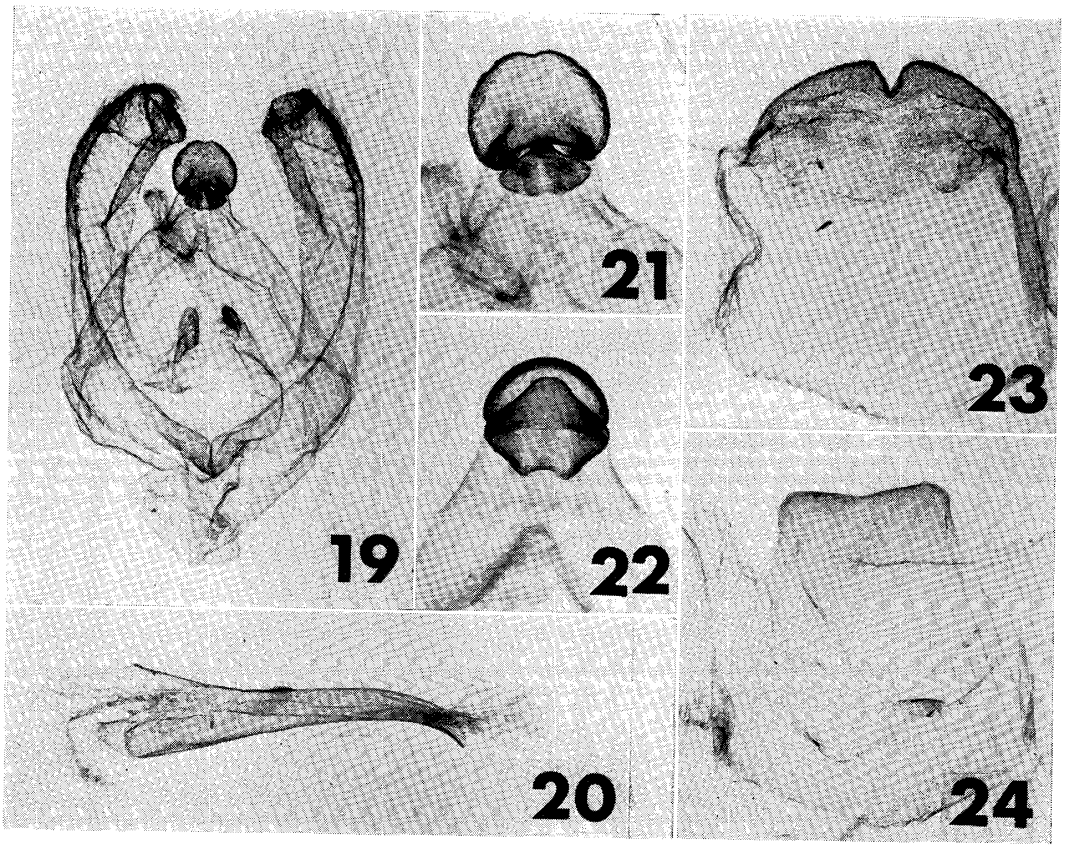
Expanse 35–43 mm in male, beyond 50 mm in female. Nearly equal in size to *grisescens,* but in the latter expanse in male not beyond 40 mm. Ground colour of forewing a little whiter than in *grisescens,* with fuscous irroration rougher and sparser; transverse lines, especially postmedian and subterminal, more distinctly represented by white points between veins; a series of white striae just before termen at veins and black striae associated with them also represented more distinctly than in *grisescens,* especially at veins M_3, Cu_1 and Cu_2. Hindwing similarly coloured to that of *grisescens,* but slightly paler.

Male genitalia (Figs. 19–21). Apex of uncus discal, nearly round with extremity concave, socii fused together into a much suppressed diamond-shaped plate; valva more distinctly beaked at extremity than in *grisescens*; juxta bilobed towards extremity, which is tapered and finely setose. Aedeagus a little more dilated basally than in *grisescens.* Eighth sternite (Fig. 23) with caudal margin round and minutely knotched mesally. In *grisescens* uncus is semicircular with extremity heavily rimmed, socii larger, diamond-shaped (Fig. 22). Caudal lobes of juxta not tapered, nearly rectangular at latero-caudal extremity, and not setose. Eighth sternite (Fig. 24) is raised caudally, with caudal margin nearly even and not knotched as in *japonica.*

Holotype ♂. Honshu——Nagano Pref., Usui-tôge, 28. vi. 1978 (S. SUGI). Genitalia slide SS-3183. In coll. SUGI.

Paratypes. Honshu——Miyagi Pref., Funagata-yama, 1 ♂, 27. v. 1967 (T. WATANABE). Shikoku——Tokushima Pref., Mt. Tsurugi, Mikoshi, 1 ♂, 8. vii. 1978 (T. MASUI). Kagawa Pref., Mt. Otaki, 1 ♀, 1. vii. 1973 (T. MASUI). In coll. SUGI.

Occurrence of two closely allied forms of *Cnethodonta* in Japan was first pointed out by JINBO (1973). Recognizing them as specifically distinct, he exactly discussed their external and genitalic characters. He found also that in one of them the male genitalia well agreed with those of *Cnethodonta baibarana* MATSUMURA known from Taiwan (Fig. 18), and considered both conspecific. Although JINBO adopted the name *baibarana* for such species as valid, I revealed now that it was identical with specimens from the Primorye region referable to *grisescens* (STAUDINGER). *Baibarana* then



Figs. 19–24. Male genitalia and eighth sternite of *Cnethodonta*. 19. *C. japonica* sp. n., male genitalia. —— 20. Ditto, aedeagus. —— 21. Ditto, uncus and socius. —— 22. *C. grisescens* (STAUDINGER), uncus and socius. —— 23. *C. japonica* sp. n., eighth sternite. —— 24. *C. grisescens* (STAUDINGER), eighth sternite.

represents a distinct subspecies of *grisescens* in Taiwan, having smaller expanse and markedly whiter colour of wing with less fuscous irroration. The other species of ours, incorrectly considered by JINBO as *grisescens*, and possibly endemic to Japan, is here described as new.

Acknowledgement

In writing this paper, I owed much to Dr. YU. A. TSHISTJAKOV, Wladivostok, for the material from the Primorye region, USSR, to whom I must state my best appreciation. My thanks are also due to Dr. H. INOUE, who kindly furnished me with photographs of type-material he prepared at British Museum (Natural History), and to Mr. T. WATANABE, for specimens from his collection.

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摘　　要

シャチホコガ科の2新属と2新種を記載し，若干の学名の整理を行った．

Nephodonta gen. n. 模式種は下記の種．

Nephodonta tsushimensis sp. n. トビネシャチホコ (新称)．対馬．3月上旬に得られた1♂1♀のみが知られる．

Notodonta dembowskii OBERTHÜR ウチキシャチホコ．*Notodonta rothschildi* WILEMAN & SOUTH はその異名である．従来この名で呼ばれていた種には次の名が有効となる．

Notodonta stigmatica MATSUMURA トビスジシャチホコ

Allodonta plebeja (OBERTHÜR)．沿海州，朝鮮．*Coreodonta coreana* MATSUMURA はその異名である．属名 *Allodonta* はこの種に限定することが妥当と考えられるので，従来 *Allodonta* として扱われていた群には属名 *Hexafrenum* が使用される．

Eriodonta gen. n. 模式種は *Shaka amagisana* MARUMO アマギシャチホコ．

Cnethodonta japonica sp. n. シロシャチホコ．

神保 (1973) による *Cnethodonta* の取扱いには，学名適用上の誤りがあったので，いわゆるシロシャチホコに対し，上記のとおり命名した．一方日本産のバイバラシロシャチホコに対しては *C. grisescens grisescens* STAUDINGER，その台湾亜種に対しては *C. grisescens baibarana* MATSUMURA の学名が用いられる．